



CARRIERS AT WAR 1941-1945

FLEET CARRIER OPERATIONS IN THE PACIFIC

BY
ROGER KEATING
& **IAN TROUT**

THE BATTLES — In the course of the Pacific War, five carrier battles were fought. Victory went to the United States on three occasions (Midway, Eastern Solomons, Philippine Sea), to Japan once (Santa Cruz) and the remaining battle (Coral Sea) ended in a draw. They were the first and last battles of their type and changed forever the nature of naval warfare.

THE GAME — In 'Carriers at War', you command the land-based and/or naval components of either nationality in any one of the five historical scenarios provided. An additional scenario recreating the Pearl Harbour Raid has been included to introduce new players easily into the game. Sophisticated, machine-language programming eliminates all the administrative paperwork involved in such detailed operations, reducing your decisions to those actually faced by your historical counterpart. The game is equally rewarding whether played solitaire or with two or more human players. In fact, team play involving up to 12 players is possible in some scenarios. The full-colour, hi-res graphics complement the screen displays, presenting the relevant information in a clear and convenient format. Whether novice or veteran, 'Carriers at War' will provide you with hours of enjoyable and satisfying gaming as you strive to emulate or even surpass the feats of Yamamoto, Fletcher, Halsey or Ozawa.

THE GAME DESIGN KIT — The nature of the program and the detail of the design decisions allow us to complement your game with a complete **Game Design Kit**. It can be used to create variations on the historical scenarios or to produce original scenarios recreating air/ naval warfare in any theatre of WWII. These simple to use utilities are illustrated with the step-by-step creation of a totally new scenario recreating the Japanese carrier operations against the Royal Navy off the coast of Ceylon in April 1942. You have, at your disposal, all of the following data bases.

- A massive 84 by 72 hex grid. At 20 nautical miles to the hex, an area in excess of three million square miles is represented.
- Up to 63 individual plane types can be defined.
- A total of 4000 aircraft can be used in each scenario, divided amongst 126 squadrons.
- Twenty-three airbases can be constructed.
- Up to 63 individual ship classes can be defined within 5 major ship types (carriers, capital warships, minor warships, submarines and auxiliaries).
- A total of 31 carriers and 215 other ships can be allocated to 48 Task Groups, each with its own flagship.
- Task Force creation, deployment and mission assignment.
- National doctrine and characteristics.
- Ordnance performance.
- Weather creation and forecasting.
- Scenario Briefing.

The **Game Design Kit** is a powerful and unique tool certain to appeal to any gamer or historian with even a passing interest in the Pacific War. The screen illustrations below are just a sample.

BASE RABAUL	MAP LOC	29 7
ASSIGNED 21 22 23 24 25		
SQUADRON 26 27 8 8 8		
RATINGS		
0 15	0 31	
DAM. STAT 15	HEAVY AA 4	
0 7	LIGHT AA 10	
AIRSTRIPE 4	SPOT NUM 15	
RADAR 1		
SEARCH ACCURACY 1	SEARCH PATTERN	
DAM. CONT 1	Y N	
THEATRE 8	H	
Y N	H	
ALLIED H	H H H H E H	
FIGHTER Y	H H H H E H	
BOMBER Y	Y S U S E Y	
PORT FAC Y	S Y	

BASE CREATE	
NUM 8	
CLEAR H	
LIST H	
LOAD H	
EDIT H	
SAVE H	
MAP H	
SQUADRON CREATE	
PLANE TYPE 15	ZERO
(0 63)	1 Figher
NUR PLANES 24	1 man crew
Axis	
RATINGS	
(0 63)	
NUR PLANES 24	
EXHAUSTION 7	
(0 3)	
EXPERIENCE 2	AB MIN 1
(Y N)	
RECON H	
NIGHT OPS H	
CARRIER OPS H	

SQUADRON CREATE	
NUM 25	
CLEAR H	
LIST H	
LOAD H	
EDIT H	
SAVE H	
PLANE CLASS CREATE	
TYPE ZERO	NUM 15
ROLE 0 2	0 1
CREW 0 5	1 man crew
RATINGS	
RANGE 0 31	0 3
NORMAL 7	HIGH 2
EXTENDED 8	MEDIUM 1
TRANSFER 10	LOW 0
CRUISING SPEED (0 15)	
BOMB LOAD (0 63)	1
(0 7)	
FIREPOWER 4	
VULNERABILITY 2	
MANOEUVRABILITY 3	
POWER 3	
(Y N)	
AIRED	
CARRIER	
SEAPLANE	
TORPEDO	
NIGHT	
ANTI SUB	

STRATEGIC STUDIES GROUP PTY. LTD.

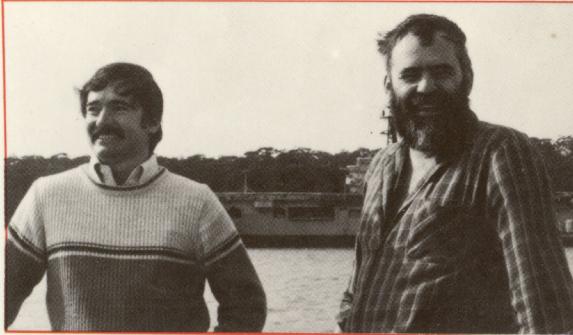
A Game for the Commodore 64

64 K DISK

Commodore is a reg. TM of Commodore Business Machines Inc.

CARRIERS AT WAR

MADE IN AUSTRALIA



THE AUTHORS

The good-looking one on the left is Roger Keating. The other one is Ian Trout. "Carriers at War" is their second joint effort and (co-incidentally?) Strategic Studies Group's second game release. Both gents are avid game players, amateur historians, lovers of Greek food and red wine, fathers of very clever and beautiful children, ex school teachers and 35 years old. The only real difference is that the gent on the left has more brains.

ACKNOWLEDGEMENTS

Strategic Studies Group would like to thank Arms & Armour Press for their kind permission to reproduce the line illustrations of the Saratoga "U.S. Aircraft Carriers", Norman Friedman, Arms and Armour Press 1983 & the Kaga "Warships of the Imperial Japanese Navy, 1869-1945", Hansgeorg Jentschura, Dieter Jung and Peter Mickel, Arms & Armour Press 1977.

On a more personal note, the authors would like to thank their wives, Lyn Keating and Philippa Trout, for their patience and Assistance — especially their patience.

DESIGN CREDITS

Game Design — Roger Keating and Ian Trout

Programming — Roger Keating

Game Development — Ian Trout

Customized Disk Operating System — Keating Computer Services P/L

Game Testing — Mark Holman, Eric Baker, Nigel Brand, John Gleason, Lisa Eugenides, Philip Bradley, Jack Greene, Andrew Whiley, Rodger MacGowan, John Morgan, Russel Wynne, John Thornton.

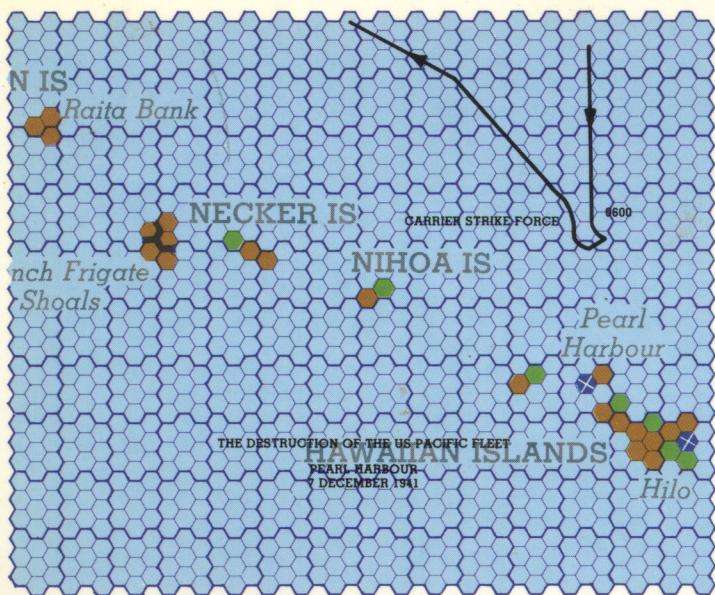
Album Cover Painting and Titles — Rodger MacGowan

Package Artwork — Evans & Pietras Advertising

Album Manufacture — C. C. Merritt P/L

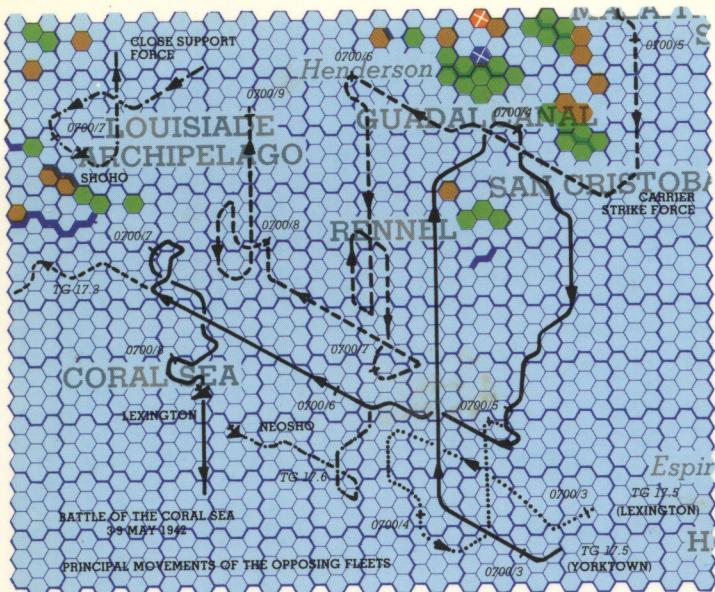
Printing — Walter Williams P/L

THE SCENARIOS



Pearl Harbour

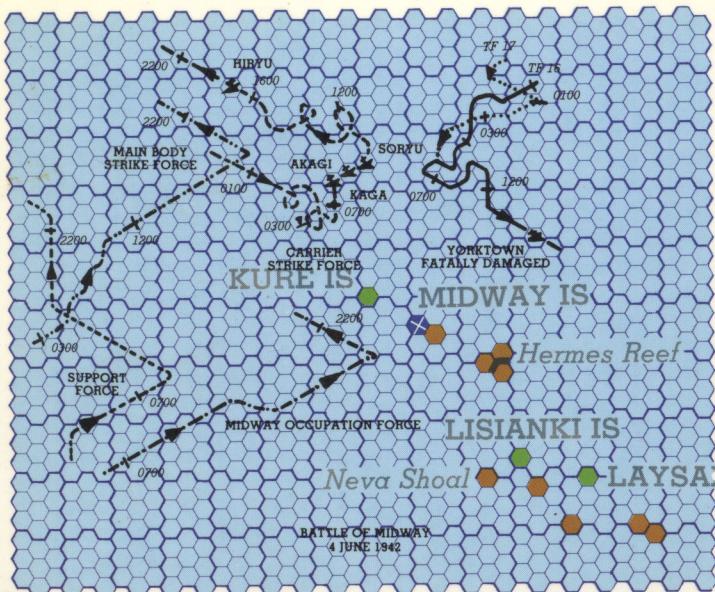
Japanese political and military values in 1941 were different from those in the West. To forewarn an enemy was an act of stupidity — not courtesy. The declaration of war upon the **US**, intended to be presented just one hour prior to the Pearl Harbour strike, was made in nominal conformity to the Geneva Convention. That its delivery was delayed is history and one can only speculate how much effect, if any, an early warning would have had in thwarting the carefully planned Japanese attack. Certainly, as events were to transpire, the **US** Pacific Fleet was caught absolutely unprepared for action. Not since Nelson's destruction of the French squadron at Aboukir Bay had a major world power suffered such an abject defeat. The losses were formidable; seven battleships, three cruisers, five destroyers and numerous auxiliary craft out of action in addition to almost 200 planes destroyed on the ground. Japanese casualties were some 29 aircraft. Yet the naval base itself was virtually intact — the vital fuel storage tanks, machine shops and dry-docks were untouched as were nine new fleet submarines. The carriers, of course, were fortunately at sea and unable to intercept the superior Japanese force. As the course of the war would show, the significant elements of ocean warfare had not been harmed. Japan had simply stirred up more trouble than she could ever hope to handle.



Coral Sea

The stunning successes of the Japanese Striking Forces (and especially of their naval aviators) in just four months had secured all of the original objectives deemed necessary for the creation of a defensible outer perimeter. A kind of 'victory disease' began to manifest itself and the hitherto careful and realistic Japanese military planning lost sight of its earlier principles. The hastily conceived expedition to capture Port Moresby on the southern coast of New Guinea was mounted without the vital protection afforded by a land-based air umbrella. It also reduced the potential striking power of Yamamoto's main Carrier Force, at this time preparing for their climactic battle with the **US** Pacific Fleet. Takagi's Carrier Strike Force raced south from Truk to intercept any Allied attempt to interfere with Abe's Transport Force as it slowly worked its way through the Louisiade Archipelago and into the Jomard Passage. **US** cryptoanalysts had cracked the Japanese naval code and, forewarned of the IJN's intentions, Nimitz despatched two fleet carriers to thwart the impending invasion. In a confused melee lasting two days, **US** naval aircraft sank the light carrier **Shoho** and severely damaged the **Shokaku**.

The cost was high. The Queen of the Flat Tops, the **Lexington**, was sunk along with the oiler **Neosho** and the destroyer **Sims**. However, Port Moresby was saved and Yamamoto had lost the use of his two modern flat tops.

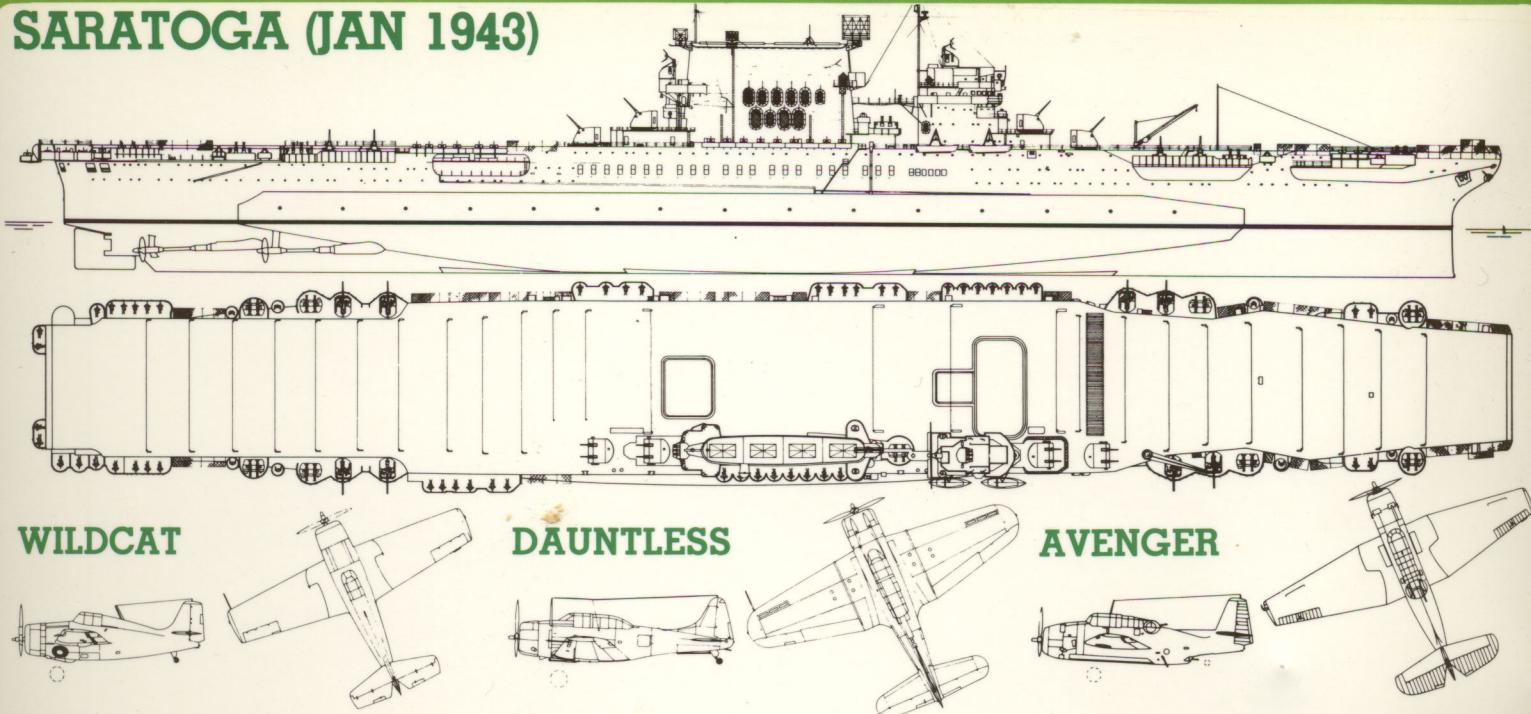


Midway

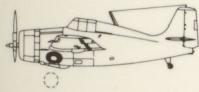
Fully aware of his country's inability to compete with the awesome **US** economy, Yamamoto was desperate to force a decisive battle — success in which, he argued, would provide the only means of preventing the inevitable defeat of his homeland. To this end, a mighty fleet of almost 100 warships including four fleet carriers was to descend upon the isolated atoll of Midway some 1000 nautical miles WNW of the Hawaiian Islands. The **US** Pacific Fleet would have to respond and, in the ensuing battle, would be annihilated. It was not to be. Sloppy planning, over-confidence, poor intelligence, dispersal of forces and just plain bad luck would combine with a forewarned **US** Navy to inflict a crushing defeat on the hapless Japanese. The four fleet carriers, **Akagi**, **Kaga**, **Hiryu** and **Soryu** were sunk as well as the heavy cruiser **Mikuma**, two destroyers and a transport. The **Yorktown**, fatally damaged by the small strike launched from the doomed **Hiryu**, was finished off three days later by a submarine. The Japanese striking arm was broken and, though it would be another year before the arrival of the Essex Class carriers would give the **US** Navy a decisive carrier superiority, the Japanese losses at Midway curtailed their further expansion and guaranteed their eventual defeat.

THE FORCES

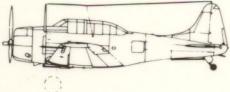
SARATOGA (JAN 1943)



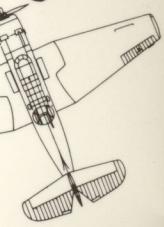
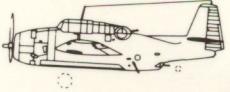
WILDCAT



DAUNTLESS



AVENGER



THE AIRCRAFT

Fighters

	Zero	Wildcat
Max Speed (kt)	289	276
Cruising Speed (kt)	180	135
Max Range (nm)	1680	700
Service Ceiling (ft)	32810	34900
Max Weight (lb)	6164	7952
Wingspan (ft)	39.4	38.0
Length (ft)	29.7	28.8
Armament	2x20mmC 2x7.7mmMG	6x.5inMG 2x7.7mmMG
Crew	1	1
Bomb Load (lb)	264	200

Dive Bombers

	Val	Dauntless
Max Speed (kt)	209	217
Cruising Speed (kt)	160	132
Max Range (nm)	800	1170
Service Ceiling (ft)	30050	27100
Max Weight (lb)	8047	9407
Wingspan (ft)	47.1	41.5
Length (ft)	33.5	32.7
Armament	2x.5inMG 2x.3inMG	1x7.7mmMG 2x.3inMG
Crew	2	2
Bomb Load (lb)	813	1200

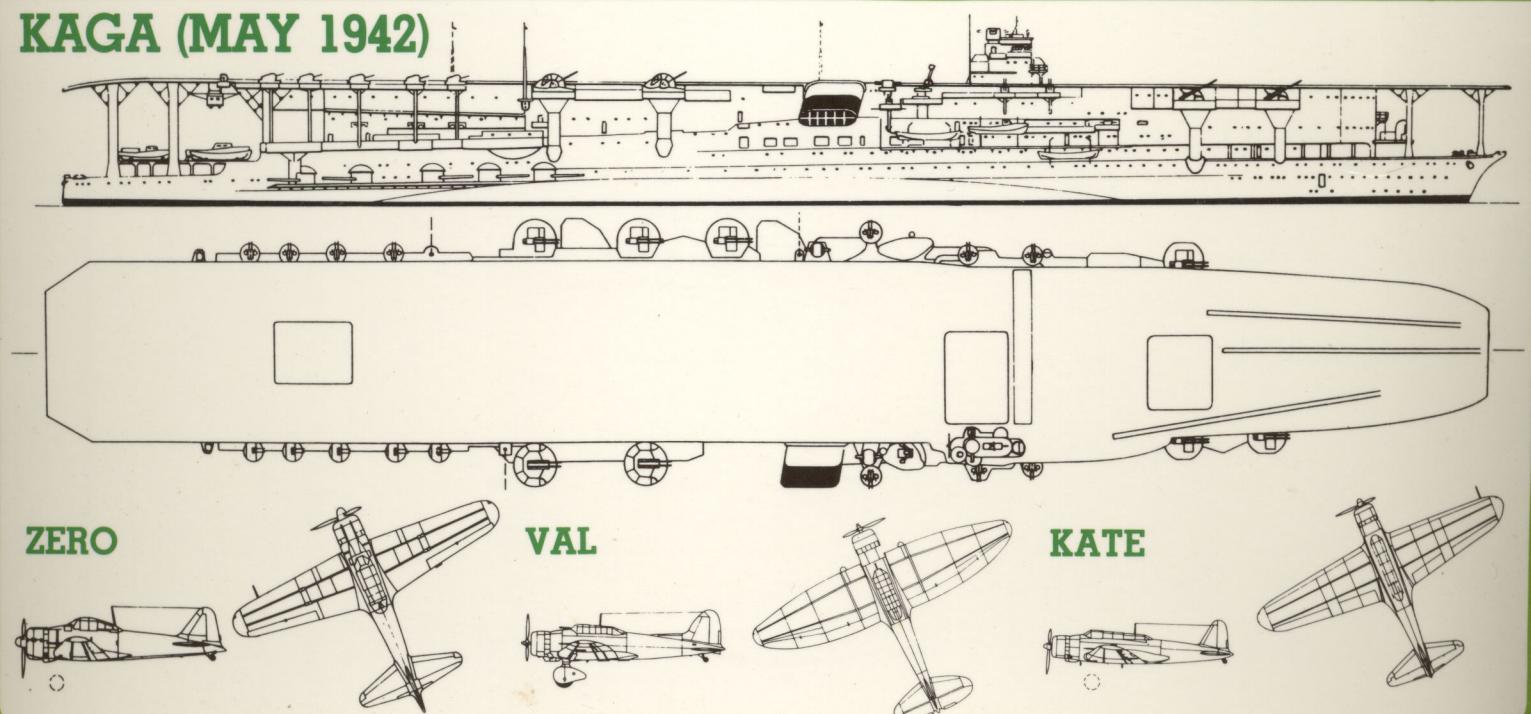
Torpedo Bombers

	Kate	Avenger
Max Speed (kt)	205	224
Cruising Speed (kt)	140	133
Max Range (nm)	1075	1000
Service Ceiling (ft)	27100	21400
Max Weight (lb)	9039	15905
Wingspan (ft)	50.9	54.1
Length (ft)	33.8	40.0
Armament	1x.5inMG or torpedo	2x.3inMG or torpedo
Crew	3	3
Bomb Load (lb)	1764	1600

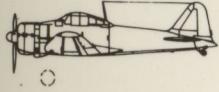
THE CARRIERS

	Kaga	Saratoga
Displacement (tons)	42541	43055
Length — overall (ft)	812.5	888.0
Beam (ft)	106.7	105.5
Draught (ft)	31.1	33.3
Max Speed (kts)	28.5	33.0
Armour-belt (in)	11	7
Range (nm @ 15 kts)	10000	10500
Armament	10 8inLA 16 5inDP 16 5inDP 22 25mmAA	16 5inDP 32 40mmAA 54 20mmAA
Aircraft Crew	90	96
	2016	2327

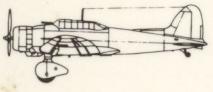
KAGA (MAY 1942)



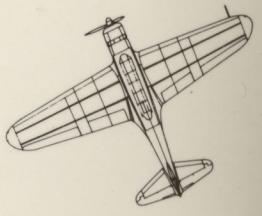
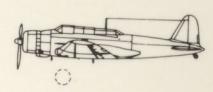
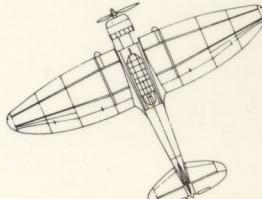
ZERO



VAL



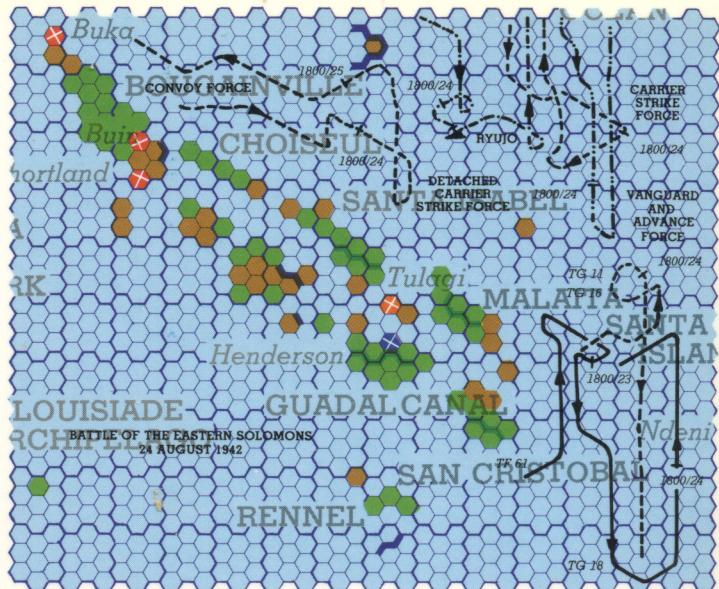
KATE



THE SCENARIOS

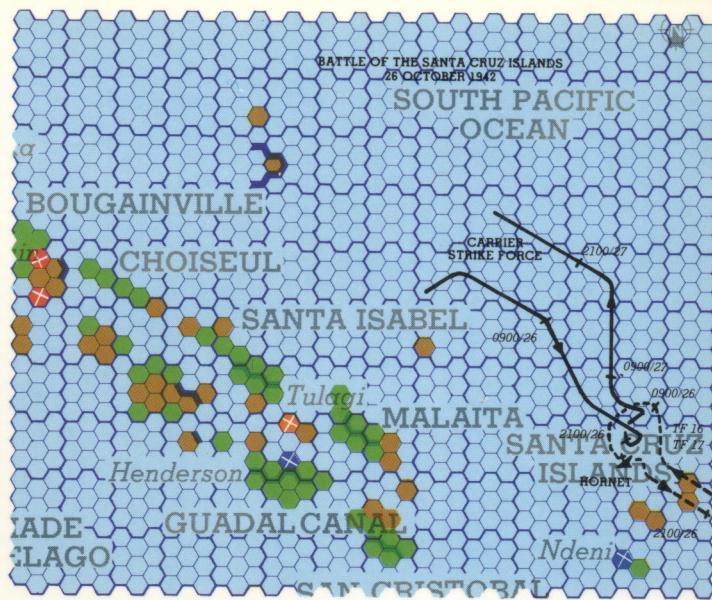
Eastern Solomons

By the middle of August 1942, the US airbase at Henderson Field on Guadalcanal was operational. Marine VF and VB units dominated the waters around the Allied toehold in the Solomons during daylight hours, effectively preventing more than a trickle of Japanese from reinforcing the out-numbered, ill-equipped force surrounding the American encampment. The Imperial General Headquarters determined the recapture of Guadalcanal and the destruction of its garrison to be imperative. An ambitious and, as usual, overly complex plan was developed whereby not only would Guadalcanal be reinforced with crack troops but also Milne Bay on the eastern tip of New Guinea would be wrested from the Australian garrison there. Fifty-eight warships including three carriers with 177 aircraft enveloped the Eastern Solomons to contend for supremacy with Fletcher's TF 61 — a force of 30 warships and 259 aircraft. It was another confused engagement, over before either side had obtained a clear picture of the other's intentions. The Japanese lost the light carrier *Ryujo* while the *Enterprise* suffered substantial damage. More significantly, the transport convoy was turned back, ending any hope for a quick build-up and successful assault. To complete the disaster, the Milne Bay invasion force was repulsed and forced to evacuate after three days hard fighting.



Santa Cruz

So serious had the situation on Guadalcanal become that on September 18th, Imperial General Headquarters directed a full division to reinforce the defeated Ikki and Kawaguchi detachments. Both sides were suffering fearfully from disease as much as combat attrition and coupled with the extreme difficulty each faced in getting reinforcements successfully ashore, another major naval battle was becoming inevitable. From mid October, Japanese battleships and heavy cruisers were committed to the nightly bombardment of Henderson Field and this, coupled with a determined assault from upwards of 20,000 experienced troops almost succeeded in driving the resolute marines from their defensive positions. Frustrated by the army's failure to neutralize Henderson Field, Yamamoto signalled his fleet south again to eliminate the US carriers and isolate Guadalcanal from its source of supply at New Caledonia. The *Hornet* was sunk and the *Enterprise* damaged in exchange for moderate damage suffered by the *Zuiho*. It was the best result the Japanese had achieved in a carrier battle. Yet strangely, Yamamoto failed to press his advantage and withdrew. Guadalcanal remained operational and the ever-expanding marine air force would soon gain such superiority over the area around the vital island that no Japanese force could further molest it.



Philippine Sea

Almost two years had elapsed since last the Imperial General Headquarters had contested US advances with carriers. This was to be the 'decisive battle', fought with the support of a vast concentration of land-based planes. On paper, the Japanese forces appeared daunting. Upwards of 500 land-based planes were deployed between Okinawa and Truk in addition to the 450 aircraft carried in the nine flat tops assembled at Tawi-Tawi. These numbers were misleading. Few Japanese carrier air-crews had had any combat experience and many had not even completed proper training programmes. Land-based crews were no better. They had lost none of their courage but without the skill of their predecessors, the generally flimsy Japanese airframes would stand no chance against the experienced, well-trained US air-crews. Furthermore, US radar and fire control systems linked with the huge numbers of AA guns now carried by all ships would make penetration, even for experienced airmen, all but impossible. On June 15th, Allied forces went ashore on Saipan with the protection of TF 58's 15 carriers. US strikes virtually destroyed the land-based component of Ozawa's plan and the subsequent failure of the carrier pilots was a foregone conclusion. Only the extra range of Ozawa's planes saved his carriers from destruction — and even so, both *Taiho* and *Shokaku* fell victim to US submarines.

